

WHAT IS CLAIMED IS:

1. An automatic pencil assembly, comprising:
 - a barrel, a point, an urging member, two clamping members, a slide, a guide pipe, a lead, a cap, and a push member, wherein:
 - 5 the barrel has a first end and a second end;
 - the point is mounted on the first end of the barrel and has a first end formed with a sleeve inserted into the first end of the barrel;
 - the urging member is mounted in the first end of the barrel and is secured in the sleeve of the point;
 - 10 each of the two clamping members is slidably mounted in the urging member;
 - the slide is slidably mounted in the point and has a first end provided with a retaining race and a second end protruded outward from a second end of the point;
 - 15 the guide pipe is mounted in the barrel and is rested on an end of the urging member;
 - the lead is in turn extended through the guide pipe, the clamping members, the retaining race and the slide and has a first end protruded outward from the guide pipe and a second end protruded outward from the slide;
 - 20 the cap is mounted on the second end of the barrel and has an end formed with a cylindrical extension extended into the barrel; and

the push member is mounted on an end of the extension of the cap to seal the extension of the cap and is rested on the first end of the lead, the push member has a first end formed with a first plug that is insertable into the extension of the cap and a second end formed with a second plug that is 5 insertable into the extension of the cap.

2. The automatic pencil assembly in accordance with claim 1, wherein the first plug of the push member is formed with a tapered hole.

3. The automatic pencil assembly in accordance with claim 2, wherein the extension of the cap receives therein a plurality of spare leads 10 which are partially received in the tapered hole of the first plug of the push member.

4. The automatic pencil assembly in accordance with claim 1, wherein the first plug of the push member has an outer diameter equal to an inner diameter of the extension of the cap.

15 5. The automatic pencil assembly in accordance with claim 1, wherein the second plug of the push member has an outer diameter equal to an inner diameter of the extension of the cap.

6. The automatic pencil assembly in accordance with claim 1, wherein the first plug of the push member is inserted into the extension of the 20 cap, and the second plug of the push member is protruded outward from the extension of the cap and is rested on the first end of the lead.

7. The automatic pencil assembly in accordance with claim 1, wherein the second plug of the push member is inserted into the extension of the cap, and the first plug of the push member is protruded outward from the extension of the cap and is rested on the first end of the lead.

5 8. The automatic pencil assembly in accordance with claim 1, wherein the urging member is formed with a receiving recess for receiving the guide pipe.

9. The automatic pencil assembly in accordance with claim 1, wherein the first end of the barrel is formed with an inner thread, and the sleeve 10 of the point is formed with an outer thread screwed into the inner thread of the barrel.

10. The automatic pencil assembly in accordance with claim 1, wherein the barrel has an inside formed with a receiving chamber for receiving the lead.

15 11. The automatic pencil assembly in accordance with claim 1, wherein the receiving chamber of the barrel has a closed first end and an opened second end, and the automatic pencil assembly further comprises an eraser mounted on the opened second end of the receiving chamber of the barrel.

20 12. The automatic pencil assembly in accordance with claim 1, further comprising a movable pipe movably mounted in the barrel and formed

with a through hole for passage of the lead, and a spring mounted between the movable pipe and the guide pipe.

13. The automatic pencil assembly in accordance with claim 12, wherein the guide pipe has an outer wall formed with an annular mounting portion for mounting a first end of the spring, and the movable pipe has an outer wall formed with an annular mounting portion for mounting a second end 5 of the spring.

14. The automatic pencil assembly in accordance with claim 1, wherein the urging member has an inner wall formed with a tapered face, and 10 each of the two clamping members has an outer wall formed with a cavity for receiving a plurality of balls which are urged on the tapered face, so that the balls are moved by the clamping members between a first position where the balls are rested on a narrower portion the tapered face of the urging member to press the clamping members inward, and a second position where the balls are 15 rested on a wider portion the tapered face of the urging member to release the clamping members from the balls.

15. The automatic pencil assembly in accordance with claim 1, further comprising a spring mounted in the first end of the slide and urged between the slide and the clamping members.

20 16. The automatic pencil assembly in accordance with claim 1, wherein the guide pipe has an inside formed with a rectangular guide hole

communicating with the two clamping members, and the lead is extended through the guide hole of the guide pipe.

17. The automatic pencil assembly in accordance with claim 1, wherein the guide pipe consists of two semi-circular tubular combined with
5 each other.